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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/782,799	02/23/2004	Shintaro Takehara	249150US2S	5448

22850 7590 01/08/2007
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C.
1940 DUKE STREET
ALEXANDRIA, VA 22314

EXAMINER

GIESY, ADAM

ART UNIT PAPER NUMBER

2627

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/08/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/782,799

Applicant(s)

TAKEHARA, SHINTARO

Examiner

Adam R. Giesy

Art Unit

2627

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 December 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement filed 12/18/2006 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each cited foreign patent document; each non-patent literature publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. It has been placed in the application file, but the information referred to therein has not been considered.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Buchler (US Pat. No. 6,266,303 B1).

Regarding claim 1, Buchler discloses a tracking error detection device for an optical disk apparatus, the device comprising: a detecting unit which includes at least two detectors and detects a reflected light from a series of pits formed on an optical disk (Figure 1, element 5); a phase comparing unit which detects a phase difference of outputs of the at least two detectors (element 14); and a low-pass filter which smoothes an output of the phase comparing unit (elements 21 and 23). Buchler also discloses filtering the signal with one low-pass filter with a cut-off of 50 KHz and a second low-pass filter with a cut-off frequency of 10 KHz (see column 4, lines 49-55). Buchler does

not distinctly disclose a low-pass filter with a cut-off frequency being higher than a frequency at which a spectrum of a modulation code recorded in the optical disk becomes -10 dB and lower than a frequency at which the spectrum of the modulation code recorded in the optical disk becomes -5 dB.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to set the cut-off frequency of the low-pass filter at a frequency higher than a frequency at which a spectrum of a modulation code recorded in the optical disk becomes -10 dB and lower than a frequency at which the spectrum of the modulation code recorded in the optical disk becomes -5 dB, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

Regarding claim 2, Buchler discloses all of the limitations of claim 1 as discussed in the claim 1 rejection above. Buchler discloses filtering the signal with one low-pass filter with a cut-off of 50 KHz and a second low-pass filter with a cut-off frequency of 10 KHz (see column 4, lines 49-55). Buchler does not distinctly disclose that the cut-off frequency of the low-pass filter is at least 8 times of a frequency band of tracking servo control of the optical disk apparatus.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to set the cut-off frequency of the low-pass filter to at least 8 times of a frequency band of tracking servo control of the optical disk apparatus, since it has been held that where the general conditions of a claim are disclosed in the prior art,

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discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

Regarding claim 3, Buchler discloses a tracking error detection device for an optical disk apparatus, the device comprising: a detecting unit which includes at least two detectors and detects a reflected light from a series of pits formed on an optical disk (Figure 1, element 5); a phase comparing unit which detects a phase difference of outputs of the at least two detectors (element 14); and a low-pass filter which smoothes an output of the phase comparing unit (elements 21 and 23). Buchler also discloses filtering the signal with one low-pass filter with a cut-off of 50 KHz and a second low-pass filter with a cut-off frequency of 10 KHz (see column 4, lines 49-55). Buchler does not distinctly disclose a low-pass filter with a cut-off frequency being higher than 40 KHz and lower than 50 KHz.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to set the cut-off frequency of the low-pass filter higher than 40 KHz and lower than 50 KHz, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

Regarding claim 4, Buchler discloses a tracking error detection device for an optical disk apparatus, the device comprising: a detecting unit which includes four detectors diagonally arranged relative to a center of a pit formed on an optical disk and detects a reflected light from a series of pits formed on the optical disk (Figure 1, element 5); an adder which adds two outputs of two sets of two detectors diagonally

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arranged and outputting a first detection signal and a second detection signal (elements 15 and 16); an equalizer which equalizes a waveform of the first detection signal and the second detection signal in order to compensate high-frequency components of the first and second detection signals (element 18); a binarizing unit which binarizes equalized first and second detection signals; a phase difference detecting unit which detects a phase difference of binarized first and second detection signals (element 14); and a low-pass filter which smoothes an output of the phase difference detecting unit (elements 21 and 23). Buchler also discloses filtering the signal with one low-pass filter with a cut-off of 50 KHz and a second low-pass filter with a cut-off frequency of 10 KHz (see column 4, lines 49-55). Buchler does not distinctly disclose a low-pass filter with a cut-off frequency being higher than a frequency at which a spectrum of a modulation code recorded in the optical disk becomes -10 dB and lower than a frequency at which the spectrum of the modulation code recorded in the optical disk becomes -5 dB.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to set the cut-off frequency of the low-pass filter at a frequency higher than a frequency at which a spectrum of a modulation code recorded in the optical disk becomes -10 dB and lower than a frequency at which the spectrum of the modulation code recorded in the optical disk becomes -5 dB, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

Regarding claim 5, Buchler discloses all of the limitations of claim 4 as discussed in the claim 4 rejection above. Buchler discloses filtering the signal with one low-pass filter with a cut-off of 50 KHz and a second low-pass filter with a cut-off frequency of 10 KHz (see column 4, lines 49-55). Buchler does not distinctly disclose that the cut-off frequency of the low-pass filter is at least 8 times of a frequency band of tracking servo control of the optical disk apparatus.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to set the cut-off frequency of the low-pass filter to at least 8 times of a frequency band of tracking servo control of the optical disk apparatus, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

Apparatus claims 6 and 7 are drawn to the apparatus corresponding to the method of using same as claimed in claims 1 and 2. Therefore apparatus claims 6 and 7 correspond to method claims 1 and 2, and are rejected for the same reasons of anticipation (obviousness) as used above.

Apparatus claim 8 is drawn to the apparatus corresponding to the method of using same as claimed in claim 3. Therefore apparatus claim 8 corresponds to method claim 3, and is rejected for the same reasons of anticipation (obviousness) as used above.

Apparatus claims 9 and 10 are drawn to the apparatus corresponding to the method of using same as claimed in claims 4 and 5. Therefore apparatus claims 9 and

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10 correspond to method claims 4 and 5, and are rejected for the same reasons of anticipation (obviousness) as used above.

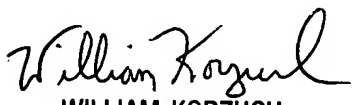
Conclusion

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Adam R. Giesy whose telephone number is (571) 272-7555. The examiner can normally be reached on 8:00am- 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William R. Korzuch can be reached on (571) 272-7589. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

ARG 12/28/2006



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